

AFGHANISTAN

PREVENTIVE MEDICINE BRIEFING

**Environmental Health Section
MEDDAC/Preventive Medicine
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Prepared by:

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AGENDA

- Purpose
- Background
- Review of Guide to Staying Healthy
- Preparation for Deployment
- Deployment
- Medical Threat
- Post Deployment
- Regional Profiles
- Country Profiles
- Leader Responsibilities
- Summary
- Conclusion



PURPOSE

Inform Deploying Personnel
(Military and Civilian) of the
Potential Health Hazards and
the Individual Countermeasures
Necessary to Assure Personal
Safety and Health



GUIDE TO STAYING HEALTHY

GTA 08-05-062

- Unfold YOUR *Guide to Staying Healthy*, Graphic Training Aid - GTA 08-05-062
- Personal Protective Measures (PPM)
 - Individual Countermeasures
- Reference Guide for this Briefing



This guide is for use by all active/reserve component military, civilian, retiree, and contractor personnel. Any individual who trains and prepares for, or participates in any type of military operation should keep and refer to this guide. 5

PREPARING TO DEPLOY

- Medical, Dental & Vision Screening (Soldier Readiness Processing)
- Prepare clothing and gear and personal hygiene items
- Complete Pre-deployment Health Assessment (DD Form 2795)
- Immunizations and chemoprophylaxis
 - Begin malaria chemoprophylaxis two weeks prior to deployment (when directed by medical authority)



During medical screening, discuss prescribed medications with the examiner; obtain at least 90-day supply of medications

PREPARING TO DEPLOY

ADDITIONAL PACKING ITEMS:

- Cotton underwear (10 changes)
- Birth control supplies
- Personal Hygiene Products
- Anti-fungal cream/powder & shower shoes
- Insect repellent, sunscreen, eye and hearing protection, lip balm, skin lotion



If you need medications or hygiene items which may not be available through normal supply systems, obtain a 6-month supply, or enough for the duration of the operation

PREPARING TO DEPLOY FEMALE CONSIDERATIONS

- Birth control pills
- Feminine Hygiene Products (non-deodorant tampons, sanitary napkins, panty liners; menstrual cramp reliever)
- Yeast infection medication (two courses of vaginal treatment)
- Portable Urinary Device
 - For use by female personnel to reduce time needed to urinate and resolve privacy issues when latrines are not available (convoys, field operations)

If using birth control pills, continue as prescribed to regulate menstrual cycles and avoid problems resulting from inconsistent use

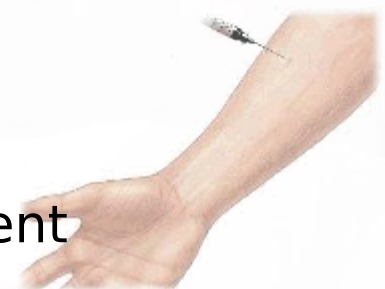
DEPLOYMENT HEALTH CARE

- Know where to seek health care when deployed
- May or may not be through same channels as your home station
- Maintain your health and seek care whenever an illness or injury occurs



PREVENTIVE MEDICINE COUNTERMEASURES

- Medical Tests – All Personnel
 - PPD – Purified Protein Derivative (TST – Tuberculin Skin Test)
 - Within 12 months prior to deployment
 - **AND** At time of redeployment
 - **AND** Again between 3-6 months after redeployment
 - HIV – Human Immunodeficiency Virus
 - Within 6 months prior to deployment
 - G6PD - Glucose-6-Phosphate Dehydrogenase
 - Prior to taking Primaquine (anti-malarial drugs are contra-indicated for G6PD deficient individuals)



TEST RESULTS

IMMUNIZATION REQUIREMENTS

- All Personnel

- Hepatitis A
- Typhoid
- Tetanus-diphtheria
- Yellow fever
- Meningococcal
- Influenza
- Measles, Mumps, Rubella (MMR)
- Polio



- Selected Personnel

- Hepatitis B (medics, MPs, firefighters, combat lifesavers)
- Rabies (occupational risk of exposure)
- Pneumococcal (asplenic personnel)
- Anthrax (as directed from higher)

Confirm requirements with medical authority or OPORD

MALARIA CHEMOPROPHYLAXIS

- Malaria Chemoprophylaxis (when required)
 - All countries except Algeria, Cuba, and Kuwait
 - Weekly chloroquine is primary regimen in Iraq, Syria, and Kazakhstan (see briefer notes)
 - Weekly mefloquine is primary regimen in all other countries (not for use by personnel in flight status – must use doxycycline)
 - Daily doxycycline is alternative regimen
 - Primaquine terminal prophylaxis (14 days) for all redeploying personnel except G6PD deficient individuals



The type of drug prescribed by your health care provider will be based on the area/country you are deploying to and your medical condition

FIELD SANITATION TEAM

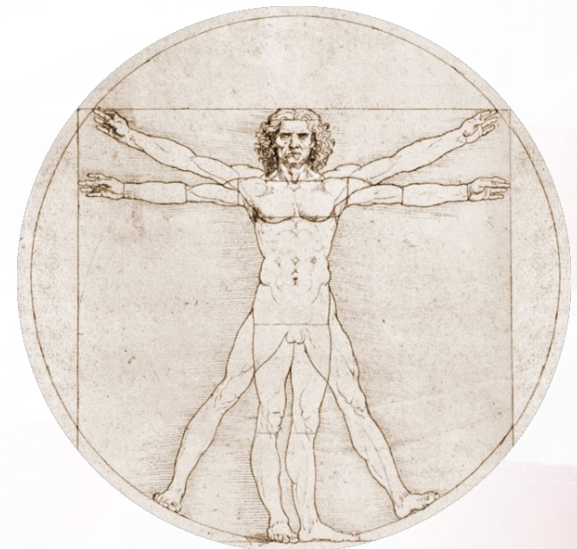
- Field Sanitation Teams (FST) train service members in Preventive Medicine Measures (PMM) and advise the commander and unit leaders on implementation of unit-level PMM.
- Know who the members of your Field Sanitation Team are PRIOR to deployment
- The FST can assist in preventing medical threats to your health
- Become familiar with FST equipment and training



Failure to apply the principles of PMM can result in mission failure

MEDICAL THREAT

- Personal Health
- Endemic Diseases
- Occupational Threat
- Environmental Threat
- Non-Battle Injuries/Operational Safety
- Operational Stress



PERSONAL PROTECTIVE MEASURES

- Wash hands frequently
- Do not rub eyes or inside of nose with bare finger(s)
- Bathe/shower regularly (field expedients will do); use unscented products
- Wear shower shoes to prevent athlete's foot
- Dry thoroughly after showering
- Sleep head-to-toe if billeted in common areas
- Wear clean, dry uniforms; change socks daily and uniform at least weekly
- Do not wear nylon or silk undergarments; cotton undergarments are more absorbent and allow the skin to dry
- Seek prompt medical care if problem exists



SEXUAL ACTIVITY

- Abstinence is the only 100% effective method for preventing sexually transmitted diseases
- Choose an effective method of birth control
 - Always use condoms during sex – regardless of other measures you choose. Using latex condoms during each sexual encounter provides improved (not 100%) protection against STD's and pregnancy.



ORAL HEALTH

- Deploy with:
 - Toothbrush
 - Dental Floss
 - Fluoride Toothpaste
- Brush twice-daily
 - Daily In difficult tactical environments
- Floss daily
- Seek medical attention at the onset of any dental problems



SPIRITUAL HEALTH

- Maintain personal prayer/meditation
- Obtain and read wholesome religious/spiritual literature
- Attend religious/spiritual group discussions/studies
- Process anger, fear, anxiety & guilt through personal & group spiritual/religious activities
- Keep in touch with spiritual advisors/chaplains



NUTRITION

- Drink fluids continuously (hourly fluid intake should not exceed 1^{1/2} quarts, daily fluid intake should not exceed 12 quarts)
- Maintain weight; do not avoid food or attempt weight loss during a deployment
- Work in cold weather can increase energy needs by 10-25%
- Operations in high-altitude areas can increase energy needs by 50% or more



STRESS

- Operational stressors
- Different types and intensities
- Recognize the symptoms of depression
- Seek or encourage help
- Take steps to reduce operational stress

Stress can be intensified for personnel who are exposed to or observe human suffering and/or death

IMPROVE RESISTANCE TO STRESS

- Fear and physical signs or symptoms of stress are normal reactions before and during combat or other dangerous/life-threatening situations
- Talk about what is happening with your buddies
- Learn ways to relax quickly
- Quickly integrate new replacement
- If you must join a new group, be active in establishing friendships
- Give each other moral support
- Care for your buddies and work together



CARBON MONOXIDE

- Carbon monoxide (CO) is a colorless, odorless, and tasteless gas produced by engines, stoves, and gas/oil heaters.
- CO replaces oxygen in the body, causing headache, sleepiness, coma, and death.



COUNTERMEASURES

- Keep sleeping area windows slightly open for ventilation and air movement.
- DO NOT sleep in vehicles with the engine running or use engine exhaust for heat.
- DO NOT park vehicles near air intakes to tents, trailers, or environmental control units.

Do not use unapproved commercial off-the-shelf heaters.
Check with your unit Safety Officer.

COLD INJURY PREVENTION

- Hypothermia, Frostbite, Chilblains

COUNTERMEASURES

- When possible, remain inside warming tents/buildings and drink warm, uncaffeinated liquids for relief from the cold
- If working outside or on guard duty, insulate yourself from the ground and wind. Rotate duty as frequently as mission allows.
- Properly wear the Extended Cold Weather Clothing System



You should receive annual unit training on prevention of cold injury

COLDER

- C:** Keep clothing Clean
- O:** Avoid Overheating.
- L:** Wear clothing Loose and in layers
- D:** Keep clothing as Dry as possible
- E:** Examine clothing for holes, tears, and broken fasteners
- R:** Repair or replace damaged clothing



Notify your first-line supervisor if you have had a previous cold injury. Use the buddy system.

WIND CHILL TEMPERATURE

Wind Speed (mph)



Air Temperature (°F)

	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
5	36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63
10	34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72
15	32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77
20	30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81
25	29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84
30	28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87
35	28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89
40	27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91
45	26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93
50	26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95

Wind speed based on measures at 33 feet height. If wind speed measured at ground level multiply by 1.5 to obtain wind speed at 33 feet and then utilize chart.

RISK OF FROSTBITE

GREEN - LITTLE DANGER (frostbite occurs in >2 hours in dry, exposed skin)

YELLOW - INCREASED DANGER (frostbite could occur in 45 minutes or less in dry, exposed skin)

RED - GREAT DANGER (frostbite could occur in 5 minutes or less in dry, exposed skin)

WET SKIN CAN SIGNIFICANTLY DECREASE THE TIME FOR FROSTBITE TO OCCUR

25

HEAT INJURY PREVENTION

- Heat Cramps, Exhaustion, or Stroke

COUNTERMEASURES

- Drink fluids continuously (hourly fluid intake should not exceed 1^{1/2} quarts, daily fluid intake should not exceed 12 quarts)
- Maintain acclimatization
- Protect yourself from exposure to sunlight and wind
- Maintain good physical condition
- Establish work/rest schedules
- Wear proper clothing
- Participate in training



You should receive annual unit training on prevention of heat injury. Heat injuries are preventable!

HEAT

H: Heat category – WBGT Index

E: Exertion level

A: Acclimatization

T: Tables – Water/Work/Rest

REMEMBER

Water requirements are not reduced by any form of training or acclimatization.

Units which have soldiers who do not drink because they do not have opportunities to urinate have a leadership problem.



HEAT INJURY PREVENTION

Fluid Replacement Guidelines for Warm Weather Training (Applies to average heat acclimated soldier wearing BDU, Hot Weather)

Heat Category	WBGT Index, °F	Easy Work		Moderate Work		Hard Work	
		Work/Rest	Water Intake, Qt/hr	Work/Rest	Water Intake, Qt/hr	Work/Rest	Water Intake, Qt/hr
1	78-81.9	NL	1/2	NL	3/4	40/20 min	3/4
2 (Green)	82-84.9	NL	1/2	50/10 min	3/4	30/30 min	1
3 (Yellow)	85-87.9	NL	3/4	40/20 min	3/4	30/30 min	1
4 (Red)	88-89.9	NL	3/4	30/30 min	3/4	20/40 min	1
5 (Black)	>90	50/10 min	1	20/40 min	1	10/50 min	1



- The work rest times and fluid replacement volumes hydration volumes will sustain performance for at least 4 hours of work in the specified heat category. Individual water needs will vary approx 1/4 qt or 8 ounces per hour.
- NL=no limit to work time per hour.
- Rest means minimal physical activity (sitting or standing), accomplished in shade if possible.
- **CAUTION: Hourly fluid intake should not exceed 1^{1/2} quarts.**
Daily fluid intake should not exceed 12 quarts.
- Wearing body armor adds 5 degrees Fahrenheit to WBGT Index
- Wearing MOPP overgarment add 10 degrees Fahrenheit to WBGT Index.

SUNBURN

- Prevent overexposing skin and eyes to solar radiation and wind

COUNTERMEASURES

- Use sunscreen and lip balm
- Use protective eyewear
- Limit exposure



Sunburn reduces soldier readiness and increases the likelihood of skin cancer.

HIGH ELEVATIONS

- High Altitude-elevations over 6,000 feet
 - High Altitude illnesses can kill
 - Stage ascents over time
 - Environmental conditions are more severe at higher elevations
 - Lower oxygen levels (“thin air”)
 - Colder temperatures, high winds, low visibility
 - Ice, snow, rocks, avalanches
 - Remain well hydrated



Be observant of the common symptoms of mountain sickness: headache, nausea, vomiting, dizziness, fatigue, irritability, and coughing. Seek medical attention immediately if you experience any of these symptoms

SAND, DUST, AND WIND

(NUMBER ONE COMPLAINT)

- Sand, wind, and dust cause health problems, particularly to skin, eyes, throat and lungs
- High winds create flying object hazards which may not be visible in blowing sand or dust
- Wash daily, especially body areas that collect dust and sand
- Protect lips with lip balm and use moisturizing skin lotion on your hands to prevent cracked, chapped fingers
- Shield your face with cloth materials to protect from blowing dust and sand
- Protect your eyes

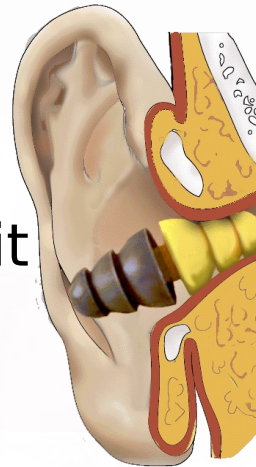


HEARING CONSERVATION

- Loud noise causes permanent hearing loss

COUNTERMEASURES

- Have your hearing protection with you at all times and use it
- Be sure your ear plugs, noise muffs or helmets fit properly and are in good condition
- Avoid noise or limit time around noise to only critical tasks



**Combat
Arms
Earplug**

**NSN 6515-
01-466-
2710**



**Authorized
wear**

IAW AR 670-1

If you have to raise your voice to be understood, it is too noisy.

Put on hearing protection.

VISION CONSERVATION

- **Preventive Measures and Eye Protection**

- Contact lens use is prohibited for use in environments where exposure to smoke, toxic chemical vapors, sand, or dust occurs
- If required, maintain 2 pair of glasses and 1 protective mask insert
- Use eye protection when in any potentially eye hazardous environment
 - Safety goggles or spectacles with side shields*
 - Chemical splash goggles*

*(ANSI Z87.1 approved)



**Vision Ready is
Mission Ready!**

FOODBORNE AND WATERBORNE DISEASES

- Diarrhea
- Cholera
- Hepatitis A and E



- Typhoid Fever
- Chemicals/Pesticides
- Heavy Metal Poison

COUNTERMEASURES



- Do not consume any food, ice, water, or beverage (to include bottled water) that have not been approved by the U.S. military
- Assume all non-approved food, ice, and water is contaminated

Even a one-time consumption of these foods or water may cause severe illness

FOOD CONTAMINATION

- Metals
 - Arsenic
 - Chromium
 - Cadmium
 - Lead
- Pesticides
- Insecticides
- Fertilizers
- Industrial chemical runoff
- Hazardous waste dumping
- Untreated sewage
- Human waste
- Animal waste



VECTOR-BORNE THREATS



Sand Flies



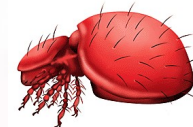
Mosquitoes



Fleas



Ticks



Chigger Mites



Lice

Not to scale

Your Medical Authority will provide guidance on the specific threat and countermeasures for your deployment location

PERSONAL PROTECTIVE MEASURES



**Permethrin
On
Uniform**



**DEET On
Exposed
Skin**



**Properly
Worn
Uniform**

**MAXIMUM
~~PRO~~TECTION**



DOD Insect Repellent System

YOU NEED TO KNOW...

Dry cleaning removes permethrin from the uniform

INSECT REPELLENTS FOR SKIN AND CLOTHING

DEET lotion



NSN 6840-01-284-
2002



- Apply a thin coat to **EXPOSED** skin
- One application lasts up to 12

Permethrin

- Individual Dynamic Absorption Kit (IDA)
- Treatment lasts for for over 50 launderings



NSN 6840-01-345-
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NSN 6840-01-278-
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- Aerosol spray can
- Treatment lasts through 5-6 washes

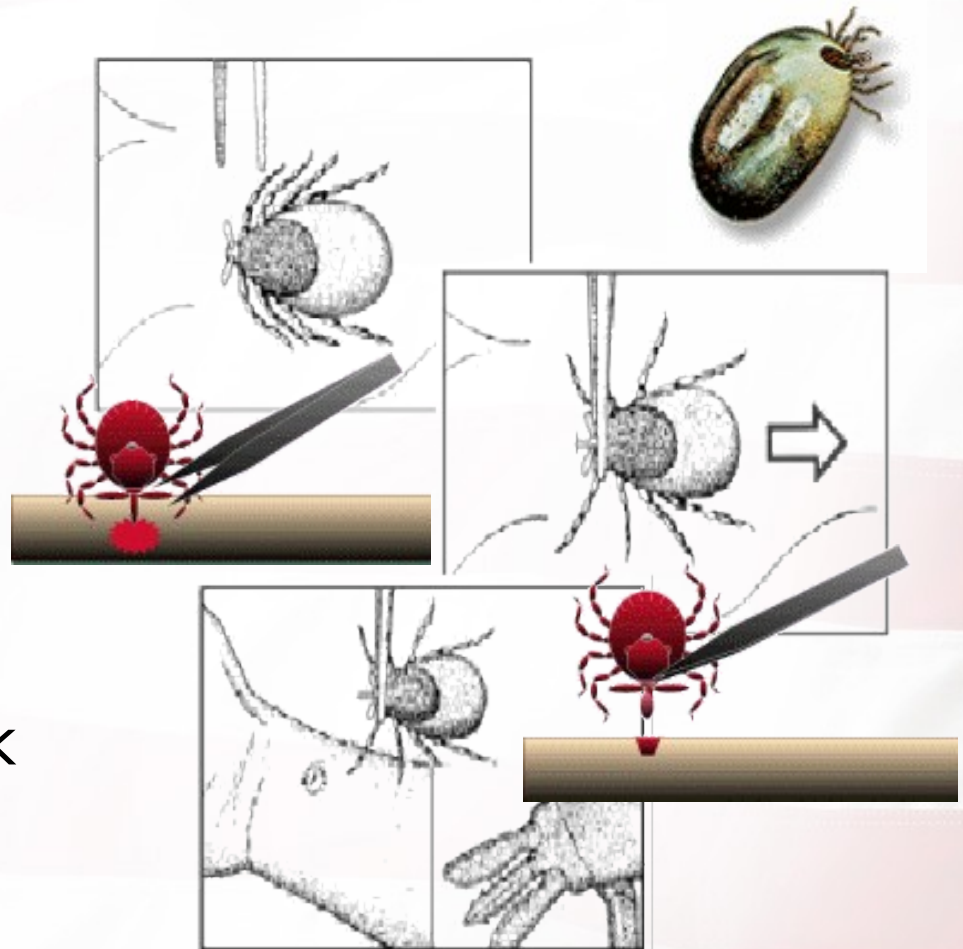
OTHER INDIVIDUAL COUNTERMEASURES

- Wash and inspect your body for insects/ticks and bites daily
- Use buddy system to check clothing routinely
- Launder uniform routinely to remove insects and eggs
- Use a bed net while sleeping
 - Spray the outside of the net with permethrin
 - Tuck edges under cot or sleeping bag
 - Don't let net touch your skin while you sleep



TICK REMOVAL PROCEDURES

- Use fine-tipped tweezers to grasp mouthparts
- Grasp mouthparts against skin surface
- Pull back slowly and steadily with firm tension
- Avoid squeezing tick
- Wash wound and apply an antiseptic



HAZARDOUS ANIMALS

- Rabies: wild dogs, cats, and other animals
- Hantavirus: infected rodent feces and urine
- Ticks, fleas, mites: carried by rodents
- Rodents: contaminate food, damage equipment



COUNTERMEASURES

- Do not feed, handle, or keep wild or stray animals as pets or mascots
- Do not tolerate the presence of rodents
- Maintain a high state of sanitation
- Avoid inhaling dust when cleaning unoccupied areas (avoid dry sweeping)
- Seek medical attention for animal bites or scratches



VENOMOUS ANIMALS

- Snakes: Pit vipers, cobras, adders, asps, and kraits
- Bees, wasps, hornets, and ants
- Spiders, centipedes, and scorpions



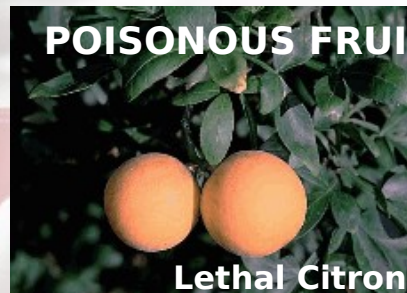
COUNTERMEASURES

- Avoid bees, hornets, wasps, ants, and spiders
- Assume ALL snakes are poisonous
- Do not attempt to handle or capture any snakes
- Shake out clothes, shoes, and bedding before use
- Wear foot protection at all times (no barefoot)
- Bring proper medication if allergic to bites/stings



HAZARDOUS PLANTS

- Plant resins cause contact dermatitis
- Poisonous roots, stems, leaves, and fruit
- Weeds and stinging nettles
- Thorny shrubs and trees



THORNY PLANTS



**TOXIC PLANT RESINS
AND DERMATITIS**



COUNTERMEASURES

- Avoid touching unfamiliar plants
- Use clothing as protective barrier
- Rinse skin promptly after exposure
- Wash clothing after contact
- Never eat any part of unfamiliar plant

WATER CONTACT DISEASES

- Leptospirosis
- Schistosomiasis



COUNTERMEASURES (Mission permitting)

- Avoid contact with standing water
- Towel dry vigorously after exposure
- Take all medications as directed

AFGHANISTAN/PAKISTAN

- Environmental Health Risks

- Contaminated food and water
- Extreme heat and cold
- Localized air pollution
- Frequent dust storms
- High altitude

- Infectious Diseases

- Diarrhea
- Hepatitis A
- Typhoid/paratyphoid fever
- Dengue fever
- Malaria
- Sandfly fever
- Hepatitis B
- Rabies

AFGHANISTAN



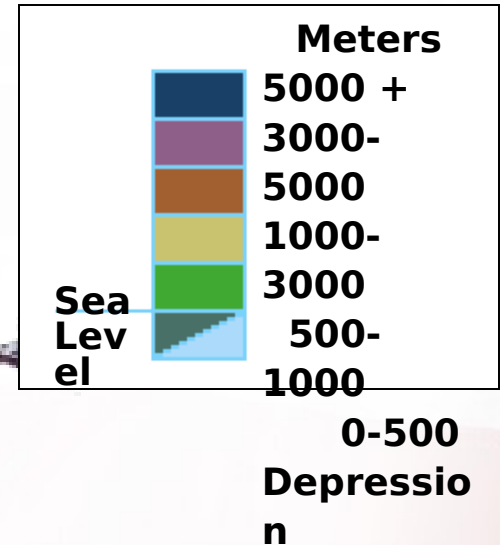
- Civil war / damaged infrastructure
- Deteriorated public health systems



Afghanistan: Environmental Issues

- Topography
- Climate

**Arid to
semiarid; cold
winters and
hot summers**



**Terrain: mostly rugged
mountains; plains in north
and southwest**

***lowest point:* Amu Darya 258
m**

***highest point:* Nowshak**

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Afghanistan: Environmental Issues

- Greatest short-term environmental health risks
 - Fecally-contaminated food/water
 - Extreme heat or cold
 - High altitude
 - Blowing sand and dust

Afghanistan: Diseases of Operational Importance

- High-risk country
- Diseases of greatest risk
 - Food and Waterborne: bacterial diarrhea, hepatitis A, typhoid/paratyphoid fever
 - Vector-borne: malaria
 - Animal-contact: rabies
- Diseases of potential risk
 - Food and Waterborne: protozoal diarrhea, cholera
 - Vector-borne: cutaneous leishmaniasis
 - Sexually transmitted: Gonorrhea/chlamydia

Afghanistan: Diseases of Operational Importance

- Health Risks Related to Caves in Afghanistan
 - Rabies
 - Tick-borne relapsing fever
 - Lack of ventilation
 - Toxic materials (fuels, chemicals)
 - Unexploded ordnance/ammunitions

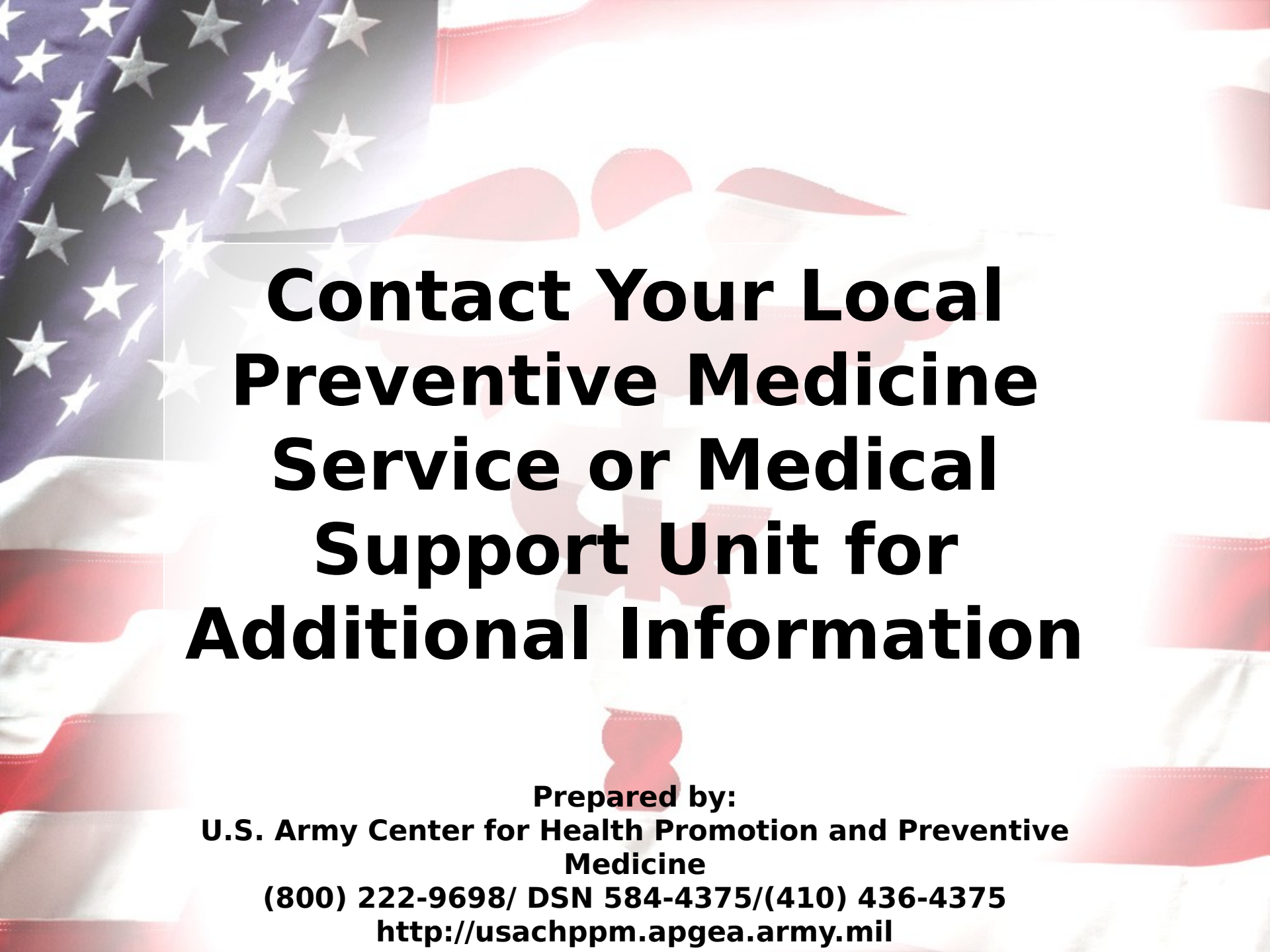
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SUMMARY

- Review of *Guide to Staying Healthy*
- Preparation for Deployment
- Deployment
- Medical Threat
- Post Deployment
- Regional Profiles
- Country Profiles

CONCLUSION

- It is critical to all military missions that personnel (including combat, support, and sustaining base military and civilian forces) are aware of health threats and the countermeasures discussed in this briefing and the *Guide to Staying Healthy*. This information can be applied during all phases of military operations, including training, pre-deployment, deployment, and post-deployment.



Contact Your Local Preventive Medicine Service or Medical Support Unit for Additional Information

**Prepared by:
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